

Set	Items	Description
S1	0	PROPAGAT?3 (S) (FLOATING (N) POINT)
S2	196	FLOATING (N) POINT (N) VALUES
S3	11	S2 AND (PROPAGATION OR PROPAGATE)
S4	①	RD S3 (unique items)
?		

8-8-05

T S4/3,K/ALL

**4/3,K/1 (Item 1 from file: 15)**  
 DIALOG(R)File 15:ABI/Inform(R)  
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00869002 95-18394

**A modular approach to Motorola PowerPC compilers**  
 Shipnes, Julie; Phillip, Mike  
 Communications of the ACM v37n6 PP: 56-63 Jun 1994  
 ISSN: 0001-0782 JRNL CODE: ACM  
 WORD COUNT: 5034

...TEXT: applicability and desirability of individual optimizations.

Most optimizations, including common subexpression elimination, constant folding and **propagation**, loop invariant removal and dead code elimination, are performed as a series of passes over...and 603 microprocessors. (Figure 4 omitted)

This example is a short sequence that multiplies two **floating - point values** together in a loop body. The scheduler interleaves the loads and integer instructions for the...

**4/3,K/2 (Item 1 from file: 16)**  
 DIALOG(R)File 16:Gale Group PROMT(R)  
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07060037 Supplier Number: 59411481 (USE FORMAT 7 FOR FULLTEXT)  
**Memories Yield to Processors at ISSCC.(International Solid State Circuits Conference)(Industry Trend or Event)**  
 Case, Brian  
 Microprocessor Report, v12, n3, p9  
 March 9, 1998  
 Language: English Record Type: Fulltext  
 Document Type: Newsletter; Trade  
 Word Count: 4218

... this in a single cycle, the brilliant trick of using carry-save instead of carry- **propagate** adders is used. Carry-save adders eliminate the slow carry **propagation** chain, and they can be merged with the SRAM decoders. Many people have recently discovered...

...technique: "64K Sum-Addressed Memory Cache."

Another clever technique employs the wires needed for carry **propagation** in the integer adder to implement the shifter and rotator. This design, shown in part...new instructions use the FP registers, but they operate on two pairs of single-precision **floating - point values**. The format is IEEE-754 compatible, but, for most operations, only round-to-nearest mode...

**4/3,K/3 (Item 1 from file: 148)**  
 DIALOG(R)File 148:Gale Group Trade & Industry DB  
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16228594 SUPPLIER NUMBER: 107838289 (USE FORMAT 7 OR 9 FOR FULL TEXT)  
 )  
**Maple 9 Puts Muscle in Business Analysis.(from Maplesoft)(Product/Service**

**Evaluation)**

SR

eWeek, NA

Sept 15, 2003

DOCUMENT TYPE: Product/Service Evaluation ISSN: 1530-6283

LANGUAGE: English RECORD TYPE: Fulltext

WORD COUNT: 681 LINE COUNT: 00059

... 9 with the same matrix multiplication task (two 1,000-by-1,000 arrays of **floating - point values**) that we benchmarked in our review of Mathematica 5; when we accepted Maple 9's...we heard about its new error analysis functions, which enable calculations using uncertain quantities to **propagate** those errors through to the results (see screen). We found a useful but somewhat limited...

**4/3,K/4 (Item 2 from file: 148)**

DIALOG(R)File 148:Gale Group Trade &amp; Industry DB

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06726527 SUPPLIER NUMBER: 14456852 (USE FORMAT 7 OR 9 FOR FULL TEXT)

**IBM regains performance lead with Power2; six-way superscalar CPU in MCM achieves 126 SPECint92. (Power2 microprocessor, central processing unit, multi-chip module) (includes related article on new Power2-based microcomputers)**

Gwennap, Linley

Microprocessor Report, v7, n13, p1(7)

Oct 4, 1993

ISSN: 0899-9341 LANGUAGE: ENGLISH RECORD TYPE: FULLTEXT

WORD COUNT: 4130 LINE COUNT: 00315

... hardware square root instruction and two new instructions that provide a more efficient conversion of **floating - point values** to integers. The processor uses a new page-table format that improves the speed of...first, since they are done in series; this allows less time for the data to **propagate** back to the FXU/FPU. With its fast CMOS process and slightly overlapped accesses, the...

**4/3,K/5 (Item 1 from file: 275)**

DIALOG(R)File 275:Gale Group Computer DB(TM)

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01742561 SUPPLIER NUMBER: 16397019 (USE FORMAT 7 OR 9 FOR FULL TEXT)

**Optimize your code to run faster and jump higher with the Visual C++ 2.0 compiler. (Technical) (Tutorial)**

Koeman, Simon; Ross, Steve

Microsoft Systems Journal, v10, n3, p51(9)

March, 1995

DOCUMENT TYPE: Technical Tutorial ISSN: 0889-9932 LANGUAGE:

ENGLISH RECORD TYPE: FULLTEXT; ABSTRACT

WORD COUNT: 5251 LINE COUNT: 00441

...ABSTRACT: dialog box include Default, Maximize Speed, Disable, Minimize Size and Customize. Global Optimizations include Copy **Propagation**, Dead Store Elimination, Common Subexpression Elimination, Inlining and Register Allocation. Optimizations specific to C++ include...

... point value supported by the Visual C++ compiler) and a long double (the size of **floating - point values** in the floating-point unit registers). This can result in temporary arithmetic results that are...

...compiler does, and what they mean in terms of the quality of generated code.

Copy **Propagation** and Dead Store Elimination These optimizations take some straightforward code-code that demonstrates the programmer...

...trim it into a more streamlined set of statements. These optimizations go together because copy **propagation** can provide opportunities for dead-store elimination.

To perform the copy **propagation** optimization, the compiler basically determines that you are making two assignments, say to x and...

```
...x = bar(
    z = baz(); becomes
    foo(y. 5);
    x = bar();
    z = baz();
```

After the copy **propagation**, the variables x and z don't appear on the right-hand side of a opportunities for copy **propagation** and dead store elimination arise as the result of the expansion of complicated macros.

Common...optimizer can detect that p cannot possibly contain a's address, allowing it to copy **propagate** the assignment of the value 3 to the variable a and replace the use of...

...extends many of these aggressive optimizations to structs and classes. The optimizer now performs copy **propagation** and dead store elimination on structs and classes as well as struct and class members...the code looking for new dead stores speeds up the optimizer considerably.

Single Use Copy **Propagation** Standard copy **propagation** propagates the right side of assignment statements into later uses. This allows dead-store elimination...

...the lifetime of the left-side variable can be reduced to zero. Single-use copy **propagation** is very similar: in this case it's known that there is only a single...

4/3,K/6 (Item 2 from file: 275)

DIALOG(R)File 275:Gale Group Computer DB(TM)

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01447007 SUPPLIER NUMBER: 11205201 (USE FORMAT 7 OR 9 FOR FULL TEXT)

**Dead reckoning. (Building Blocks column) (tutorial)**

Ochs, Tom

Computer Language, v8, n9, p107(8)

Sept, 1991

DOCUMENT TYPE: tutorial ISSN: 0749-2839 LANGUAGE: ENGLISH

RECORD TYPE: FULLTEXT; ABSTRACT

WORD COUNT: 2702 LINE COUNT: 00257

... object represented. For instance, in the case of our broomstick, the type would use two **floating - point values** representing the upper and lower approximation. In this representation, the higher value would always be...introduces silent errors. \* Subtraction can quickly erode precision. March: \* We must carefully analyze arithmetic error **propagation**. \* Understanding fundamental algorithms is important (how we calculate library functions). April: \* Differences are not differentials...

4/3,K/7 (Item 3 from file: 275)  
DIALOG(R)File 275:Gale Group Computer DB(TM)  
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01422303 SUPPLIER NUMBER: 10341996 (USE FORMAT 7 OR 9 FOR FULL TEXT)  
**A rotten foundation. (errors in floating-point computations) (column)**  
Ochs, Tom  
Computer Language, v8, n2, p103(5)  
Feb, 1991  
DOCUMENT TYPE: column ISSN: 0749-2839 LANGUAGE: ENGLISH  
RECORD TYPE: FULLTEXT; ABSTRACT  
WORD COUNT: 2400 LINE COUNT: 00194

... We use numbers like these extensively, but we can only represent them as approximate binary **floating - point values** . Any calculated number that does not fall on a representable floating-point position is coerced...laws can also be violated.

It is also dangerous to check for exact quality of **floating - point values** since the result of a calculation may be rounded to a slightly incorrect value. Technically...

...DESCRIPTORS: Error **Propagation** ;  
?